

A NEW BUPRESTID FROM BRITISH COLUMBIA, WITH
NOTES ON THE GENUS BUPRESTIS¹

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The genus *Buprestis* presents a number of problems subsequent to the excellent and comprehensive review of Nicolay and Weiss². One species has been described since 1918 by H. E. Burke³, one of Col. Casey's species appears to be a perfectly good one and another will be described in this paper. The new species herein described seems to be quite rare. I have waited nearly eight years to collect the six specimens now before me. The notes and conclusions set forth are the result of nearly forty years collecting in which I have endeavored to have each species represented by a large series. Of late years we have been able to obtain a more comprehensive view of the distribution of our species from east to west. The characters are so variable in many species that a large series is necessary in order to obtain a comprehensive idea of the limits of variation.

Buprestis contortæ Hopping, n. sp.

Length 15-18 mm., only moderately convex; dorsal surface bluish green with margins of elytra narrowly bronzed; moderately shining; ventral surface bronze-green.

Head densely, coarsely punctured with sharply defined occipital line; pronotum coarsely, moderately punctured with rather faint broad median sulcation, side margins arcuate, basal margin bisinuate with basal angles acute; prosternum broadly sulcate, elytra distinctly wider than base of pronotum with six entire costæ, one to four with narrow intervals which in the scutellar area have large uniseriately placed pits or punctures, especially in the interval between the short scutellar costa and the suture, apices of elytra rounded to the suture; ventral segments very sparsely and finely punctured, first ventral sulcate, last ventral broadly arcuate on apical margin.

Holotype, male, Midday Valley, Merritt, B. C., July 8, 1923. (R. Hopping), from *Pinus contorta*. Exp. 17053, Lot 1360, No. 3267 in the Canadian National Collection.

¹ Contribution from the Division of Forest Insects, Entomological Branch, Dept. of Agriculture, Ottawa, Ont.

² Jl. N. Y. Ent. Soc., Vol. XXVI, June, 1918.

³ Proc. Ent. Soc. Wash., XXVI, 1924, pp. 70-72.

Allotype, female, same data, No. 3267 in the Canadian National Collection.

Paratypes, 2, same locality, one July 8, 1923. (R. Hopping), and the other June 30, 1926, (W. Mathers), in the Vernon Laboratory Collection.

Two other specimens, evidently the same species, from Oliver and Kimberley, B. C., are not quite typical as the prosternal process is not or only faintly sulcate.

This species may be separated from *intricata* Csy., *aurulenta* Linn. and *adjecta* Lec. by the number of costæ and the large intercostal pits of the scutellar area.

The four species may be separated by the following key:

- A. Elytra with four costæ, all the intervals broad and irregularly punctured, costæ not punctate.....*aurulenta* Linn.
- AA. Elytra with more than four costæ, costæ punctate.
 - B. Tips of elytra emarginate and usually bidentate, form short, robust and convex; elytra with eight costæ*adjecta* Lec.
 - BB. Tips of elytra rounded to the suture, form feebly convex.
 - C. Elytra with eight entire costæ.....*intricata* Csy.
 - CC. Elytra with six entire costæ.....*contortæ* n. sp.

BUPRESTIS INTRICATA Csy.

An examination of Casey's type has convinced me that this species is entirely distinct from *adjecta* Lec. It has not the robust form of *adjecta* of which I have 16 examples before me. The punctation of the head and thorax is much coarser and sparser, the elytra are not so convex and do not represent the brilliant shining effect of *adjecta*. The apices of the elytra are not bidentate or emarginate as in *adjecta*.

I have one specimen taken at Mt. Mitchell, Tulare County, California, at 10,000 feet elevation. Casey's type is bluer than my specimen.

BUPRESTIS RUSTICORUM Kby.

I have before me 122 specimens of this species, ranging from British Columbia to California and the southwest, and have compared these with 29 specimens of *B. maculativentris* Say in my collection and a large series in the Canadian National Collection. Mr. Blair of the British Museum also very kindly

compared a specimen of *rusticorum* with Kirby's type. Not only is *rusticorum* on the average very much larger than *maculativentris* but I find the following differences:

Elytra strongly costate, with intercostal spaces of the disc confusedly punctate, wide, with costæ narrow and sharply defined.....	<i>rusticorum</i> Kby.
Elytra feebly costate, intercostal spaces of the disc more or less uniseriately punctured, narrow, with costæ more or less flattened.....	<i>maculativentris</i> Say.

The length of *maculativentris* 14-20 mm. and of *rusticorum* 15-23 mm. given by Nicolay and Weiss, is rather misleading considering that one rarely finds the former as large as 20 mm. and the latter as small as 15 mm. A series of *maculativentris* averages about 16 mm., and *rusticorum* 20 mm., with specimens of the latter 22 and 23 mm. not uncommon.

W. J. Chamberlin in his published notes⁴ remarks that *maculativentris* can always be told from *rusticorum* by the spines or teeth on the tip of the elytra. This is generally true, although I have found many exceptions, where the tip was perfectly smooth, showing no sign of tubercles or teeth. The western phase, *subornata* Lec., in the small series before me, has the teeth.

In view of the above characteristics, the average size and the ease with which it may be separated from *maculativentris*, *rusticorum* in my opinion should be considered a distinct species. The variety *subornata* is apparently the western phase of *maculativentris*.

BUPRESTIS LANGI Mann.

I have before me 58 specimens of *Buprestis langi* Mann. and 41 specimens of *B. fasciata* Fab. of both sexes. I have also examined a large series of both species in the Canadian National Collection. Nicolay and Weiss⁵ very excellent descriptions will serve to separate them easily. Aside from the differences in the key I find that the generally more elongate form in *langi* with the more abruptly rounded margins of the elytra in *fasciata* also is very variable in both species, the females of *fasciata* seem to be always maculate while as a rule the females of *langi* are immaculate. *B. fasciata* is supposed to breed in maple

⁴ Pan-Pac. Ent., Vol. V, No. 2, Oct., 1928, p. 95.

⁵ Jl. N. Y. Ent. Soc., Vol. XXVI, June, 1918.

and poplar and Dr. Van Dyke gives the host of *langi* as Douglas fir. Dr. Burke also writes me that he took all stages from the same host. Evidently it is not the only host, as many of my specimens have been taken on willow in Southern California at least 300 miles from any Douglas fir. In British Columbia, in all our cage experiments with Douglas fir, where whole infested trees have been caged, we have never bred *langi*, although the trees have been caged for several years.

The differences between *langi* and *fasciata* may be a little more definitely expressed by the following:

Elytral striæ moderately deep, punctures small; costæ broad and flattened.....	<i>fasciata</i> Fab.
Elytral striæ deep, punctures large; costæ narrow, not flattened.....	<i>langi</i> Mann.

I have failed to find any difference in the lustre of the costæ or intervals as stated by Nicolay and Weiss. Occasional dull specimens occur in both species. I have one *langi* entirely black, not shining. Melanic forms are not uncommon in the *Buprestidæ* as I have a specimen of *B. aurulenta* which is also entirely black.

Mr. Chamberlin in his notes above referred to (p. 94) gives some differences between the species *langi* and *fasciata* especially in form, which is entirely correct from my observations. But in regard to colour and maculation no definite rule can be laid down for either sex. Some of the males of *langi* seem fully as deserving of a varietal name as *B. lineata* var. *davisi* N. and W. The general scheme of maculation between the females, however, show the difference as explained above.

As the specific differences seem exceedingly well defined for this genus I consider *langi* a distinct species.

BUPRESTIS NUTTALLI Kby. var. ALTERNANS Lec.
and var. CONSULARIS Gory.

I have before me 58 specimens of this complex, from both the east and the west, and have examined a large series in the Canadian National Collection with wide distribution. There is every conceivable elytral maculation from the transverse bands to specimens with two small dots and with elytra entirely black. While some typical examples, both east and west, can be sepa-

rated, the intermediate forms could be made into many separate varieties. The elytral intervals "alternately strongly convex" or "strongly convex" is variable and cannot be depended upon. There is every grade between "thorax sinuate or parallel" and "sides of thorax arcuate." The specimens so gradually merge from both varieties to *nuttalli* and the punctuation of the abdomen is so variable between males and females that they cannot be separated. I therefore consider them one and the same species and that these varieties cannot be maintained. Nicolay and Weiss have already intimated that the var. *alternans* is the same as *nuttalli*. Typical examples of what is called *consularis* are often taken in British Columbia, and we have bred several from *Pinus ponderosa*, but as the other forms and intergrades are also taken here we cannot separate the series. Apparently the alternately convex intervals vary with the individual. Mr. K. G. Blair of the British Museum very kindly compared for me two specimens of *nuttalli* with Kirby's type.

A NEW SPECIES OF HELOPS FROM GUADALUPE ISLAND

(Coleoptera: Tenebrionidæ)

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Contributions to the knowledge of the Coleoptera of Guadalupe Island have been made from time to time. Dr. Geo. Horn in 1875 gave a list of a small collection made by Dr. Edward Palmer (Trans. Amer. Ent. Soc., V, 1876, p. 198). A single species of *Helops* being listed. Dr. Horn was not certain as to its specific status, recording it as *Helops bachei* Lec., var. In the Canadian Entomologist, vol. XXIX, 1897, H. C. Fall lists the known species of Coleoptera of the Southern California Islands, including those of Guadalupe Island, without adding any species to those reported by Dr. Horn, nor did he make any comments regarding the specific standing of *Helops bachei* Lec., var. In 1890, Col. Casey described *Helops guadalupensis* n. sp. (Ann. N. Y. Acad. Sci., vol. V) and evidently the one referred to by Dr. Horn. I consider it distinct from *bachei* Lec.

In 1922, the California Academy of Sciences sent an Expedition to the Island. Among the Coleoptera secured was a series of *guadalupensis* taken by Mr. J. R. Slevin. No additional